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(54) Title: MANUFACTURE OF VITAMIN B₆

(57) Abstract: A process for manufacturing a 3-unsubstituted, 3-monosubstituted or 3,3-disubstituted 9-acyloxy-1,5-dihydro-8-methylpyrido[3,4-e] [1,3]dioxepin (I) and optionally for manufacturing pyridoxine involves performing an addition reaction between a 4-methyl-5-alkoxy-oxazole (II) and a 2-unsubstituted, 2-monosubstituted or 2,2-disubstituted 4,7-dihydro-(1,3)-dioxepin (III) in the substantial absence of a solvent and a catalyst to give a product mixture consisting essentially of the appropriate Diels-Alder adduct (IV) in a major proportion and the appropriate 3-unsubstituted, 3-monosubstituted or 3,3-disubstituted 1,5-dihydro-8-methylpyrido[3,4-e] [1,3]dioxepin 9-ol (V) in a minor proportion, removal of a substantial proportion of the unreacted oxazole and dioxapin starting materials from the product mixture by distillation under reduced pressure, addition of a substantially anhydrous organic acid to said product mixture and rearrangement of the Diels-Alder adduct IV to further V in the presence of said substantially anhydrous organic acid with removal of the generated alkanol by distillation under reduced pressure, and acylation of the resulting enriched quantity of V with an added carboxylic acid anhydride to produce the desired I, and optionally converting this so-manufactured acylation product I to pyridoxine by acid hydrolysis for achieving deprotection and deacylation. Pyridoxine is a well known form of vitamin B₆ with well established utility.

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